H0943

0054353

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B99-042 H0943

DATE RECEIVED: 10/31/00 RFW LOT # :0010L089

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0YWX1						
ARSENIC, TOTAL	001	S	99L1711	08/01/00	11/13/00	11/13/00
ARSENIC, TOTAL	001 REP	S	99L1711	08/01/00	11/13/00	11/13/00
ARSENIC, TOTAL	001 MS	S	99L1711	08/01/00	11/13/00	11/13/00
B0YWX2						
ARSENIC, TOTAL	002	S	99L1711	08/01/00	11/13/00	11/13/00
B0YWW8						
ARSENIC, TOTAL	003	S	99L1711	08/01/00	11/13/00	11/13/00
B0YWW9						
ARSENIC, TOTAL	004	S	99L1711	08/01/00	11/13/00	11/13/00
B0YWX0						
ARSENIC, TOTAL	005	S	99L1711	08/01/00	11/13/00	11/13/00
LAB QC:						
ARSENIC LABORATORY	LC1 BS	S	99L1711	N/A	11/13/00	11/13/00
ARSENIC, TOTAL	MB1	S	99L1711	N/A	11/13/00	11/13/00

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD B99-042
RFW#: 0010L089
SDG/SAF#: H0943/B99-042

W.O.#: 10985-001-001-9999-00
Date Received: 10-31-00

METALS CASE NARRATIVE

1. This narrative covers the analyses of 5 soil samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary. The samples are a re-log of 0008L080.

3. All analyses were performed within the required holding times.

4. The cooler temperature has been recorded on the original Chain of Custody.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).

7. The preparation/method blank (MB) was within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

8. All ICP Interference Check Standards were within control limits.

9. The laboratory control sample (LCS) was within the 80-120% control limits. Refer to form 7.

10. The matrix spike (MS) recovery was within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. The duplicate analysis was within the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

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12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

13. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Bar GV

12-6-00

J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

Date

gmb/m10-089

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 030L089

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: __3005A __3010A __3015 __3020A ✓3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	__6010B	__200.7			__99
Antimony	✓6010B __7041 [5]	__200.7 __204.2			__99
Arsenic	✓6010B __7060A [5]	__200.7 __206.2	__3113B		__99
Barium	__6010B	__200.7			__99
Beryllium	__6010B	__200.7			__99
Bismuth	__6010B [1]	__200.7 [1]		__1620	__99
Boron	__6010B	__200.7			__99
Cadmium	__6010B __7131A [5]	__200.7 __213.2			__99
Calcium	__6010B	__200.7			__99
Chromium	__6010B __7191 [5]	__200.7 __218.2			__SS17
Cobalt	__6010B	__200.7			__99
Copper	__6010B __7211 [5]	__200.7 __220.2			__99
Iron	__6010B	__200.7			__99
Lead	__6010B __7421 [5]	__200.7 __239.2	__3113B		__99
Lithium	__6010B __7430 [4]	__200.7		__1620	__99
Magnesium	__6010B	__200.7			__99
Manganese	__6010B	__200.7			__99
Mercury	__7470A [3] __7471A [3]	__245.1 [2] __245.5 [2]			__99
Molybdenum	__6010B	__200.7			__99
Nickel	__6010B	__200.7			__99
Potassium	__6010B __7610 [4]	__200.7 __258.1 [4]			__99
Rare Earths	__6010B [1]	__200.7 [1]		__1620	__99
Selenium	__6010B __7740 [5]	__200.7 __270.2	__3113B		__99
Silicon	__6010B [1]	__200.7		__1620	__99
Silica	__6010B	__200.7		__1620	__99
Silver	__6010B __7761 [5]	__200.7 __272.2			__99
Sodium	__6010B __7770 [4]	__200.7 __273.1 [4]			__99
Strontium	__6010B	__200.7			__99
Thallium	__6010B __7841 [5]	__200.7 __279.2 __200.9			__99
Tin	__6010B	__200.7			__99
Titanium	__6010B	__200.7			__99
Uranium	__6010B [1]	__200.7 [1]		__1620	__99
Vanadium	__6010B	__200.7			__99
Zinc	__6010B	__200.7			__99
Zirconium	__6010B [1]	__200.7 [1]		__1620	__99

Other:_____ Method:_____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

RECRA **Sample Discrepancy Report (SDR)** SDR #: 00PM138

Initiator: Arlette Johnson Batch: 00081080 Parameter: _____
Date: 10/25/00 Samples: all Matrix: SOIL
Client: TNU Hanford Method: SW846/MCAWW/CLP/ Prep Batch: _____
H0943

1. Reason for SDR

a. COC Discrepancy __ Tech Profile Error __ Client Request __ Sampler Error on C-O-C
__ Transcription Error __ Wrong Test Code __ Other _____

b. General Discrepancy

__ Missing Sample/Extract __ Container Broken __ Wrong Sample Pulled __ Label ID's Illegible
__ Hold Time Exceeded __ Insufficient Sample __ Preservation Wrong __ Received Past Hold
__ Improper Bottle Type __ Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary)

2. Known or Probable Causes(s) (To be used for trend analysis)

__ Lack of Organization
__ Lack of Training
__ Lack of Discipline
__ Lack of Resources
__ Lack of Time
__ Lack of Management Support
__ Other (Please explain):

3. Discussion and Proposed Action

__ Re-log
✓ Entire Batch
__ Following Samples: _____
__ Re-leach
__ Re-extract
__ Re-digest
__ Revise EDD
__ Change Test Code to _____
__ Place On/Take Off Hold (circle)

Other Description:

for Trace ICP As, 7 day TAT
per client request

Note on COC: Trace ICP

Arlette Johnson 10/26/00

4. Project Manager Instructions...signature/date: _____

✓ Concur with Proposed Action
__ Disagree with Proposed Action; See Instruction
✓ Include in Case Narrative
__ Client Contacted:
Date/Person _____
__ Add
__ Cancel

5. Final Action...signature/date: T Keppel 10/31/00 Other Explanation:

__ Verified re-[log][leach][extract][digest][analysis] (circle)
__ Included in Case Narrative
✓ Hard Copy COC Revised
✓ Electronic COC Revised
__ EDD Corrections Completed

Relogged to 00100089

When Final Action has been recorded, forward original to QA for distribution and filing.

Route/Distribution of SDR	Route	Distribution of Completed SDR
__ Initiator	__	Metals: Doughty
__ Lab Manager: M. Taylor	__	Inorganic: Perrone
__ Project Mgr: Stone/Carey/Johnson	__	GC/LC: Pastor
__ Section Mgr: Wesson/Daniels	__	MS: Layman/Rycklak
X QA (file): Schrenkel	1	Log-in: Keppel
3 Data Management: Feldman	__	Admin: Soos
__ Sample Prep: Bickel/Kauffman	2	Other: Jeff Welsh

L-WI-006/E-08/00

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/20/00

CLIENT: TNUHANFORD B99-042 H0943 RECRA LOT #: 0010L089

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B0YWX1	Arsenic, Total	2.9	MG/KG	0.32	1.0
-002	B0YWX2	Arsenic, Total	0.33 u	MG/KG	0.33	1.0
-003	B0YWW8	Arsenic, Total	2.9	MG/KG	0.32	1.0
-004	B0YWW9	Arsenic, Total	3.9	MG/KG	0.32	1.0
-005	B0YWX0	Arsenic, Total	3.4	MG/KG	0.32	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 11/20/00

CLIENT: TNUHANFORD B99-042 H0943 RECRA LOT #: 0010L089

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	99L1711-MB1	Arsenic, Total	0.34 u	MG/KG	0.34	1.0

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INORGANICS ACCURACY REPORT 11/20/00

CLIENT: TNUHANFORD B99-042 H0943 RECRA LOT #: 0010L089

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B0YWX1	Arsenic, Total	184	2.9	188	96.8	1.0

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 11/20/00

CLIENT: TNUHANFORD B99-042 H0943 RECRA LOT #: 0010L089

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B0YWX1	Arsenic, Total	2.9	2.8	3.5	1.0

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INORGANICS LABORATORY CONTROL STANDARDS REPORT 11/20/00

CLIENT: TNUHANFORD B99-042 H0943 RECRA LOT #: 0010L089

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	99L1711-LC1	Arsenic, LCS	957	1000	MG/KG	95.7

RECRA LabNet Use Only

00101089

Custody Transfer Record/Lab Work Request

Page 1 of 1

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: TPA-Hanford 399-042

Est. Final Proj. Sampling Date:

Project #: 10985-001-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: DJ

QC: Spec Del: Std TAT: 7 day

Date Rec'd: 10-31-00 Date Due: 11-7-00

Account #:

Refrigerator #: 5A

#/Type Container: Liquid / Solid: 1AG

Volume: Liquid / Solid: 125

Preservatives:

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN

RECRA LabNet Use Only: MASTO

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	MASTO
001	BOY WX1			S	8-100	1045	✓
002	X2					1000	✓
003	W8					1045	✓
004	W9					1020	✓
005	X0					1035	✓

Special Instructions: Saf B99-042

Trace ICP

Run Matrix QC

DATE/REVISIONS:

1. Prelogs of 00081080 per SDR00PM138
2.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were: 1) Shipped ____ or Hand Delivered ____

Airbill # ____

2) Ambient or Chilled

3) Received in Good Condition Y or N

4) Labels Indicate Properly Preserved Y or N

5) Received Within Holding Times Y or N

COC Tape was: 1) Present on Outer Package Y or N; 2) Unbroken on Outer Package Y or N; 3) Present on Sample Y or N; 4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. ____ °C

Relinquished by	Received by	Date	Time
Prelog	IBapp	103m00	—

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES: